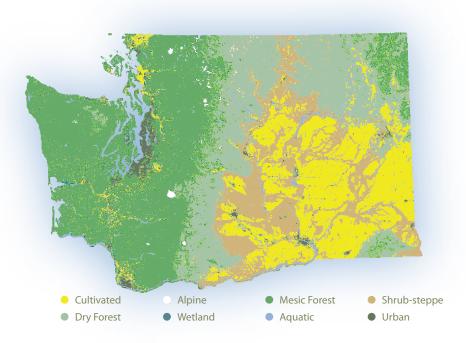
MAJOR ECOSYSTEMS OF WASHINGTON



Washington has an amazingly diverse natural heritage. The state's varied flora and fauna inhabit a multitude of aquatic and upland ecosystems. Imagine everything from Roosevelt elk, salmon, and banana slugs in the wet cedarhemlock rain forest of the Olympic Peninsula to sharptailed grouse, mariposa lilies, and western rattlesnakes in the sagebrush coulees of eastern Washington.

Using the Scorecard

For a trial run, the researchers applied the scorecard fully to the mesic forests of western Washington and partially to the shrub-steppe of eastern Washington—two diverse ecosystems that cover more than half of the state. This preliminary application of the scorecard suggests that the overall biodiversity of western Washington's forests is faring moderately well when contrasted to the shrub-steppe region.

Beyond providing a big picture view, the scorecard's indicators can be combined and summarized in ways relevant to particular needs. With such versatility, the scorecard can provide valuable information to the public and decision makers on the overall status of Washington's biodiversity. The results can provide guidance to legislation, policy priorities, and management objectives, as well as providing a baseline for assessing the effectiveness of biodiversity conservation activities.



About the Council

The Washington Biodiversity Council was a public-private partnership chartered by executive order from 2004 through June 2010. Council members included private landowners, agency natural resource managers, tribal representatives, and members of the education, business, and environmental communities. The Council was tasked by the Governor with crafting and guiding the Washington Biodiversity Conservation Strategy, a long-term vision and approach for conserving Washington's remarkable biological diversity for the benefit of all.

WASHINGTON
BIODIVERSITY COUNCIL
CONSERVATION I EDUCATION I STEWARDSHIP

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Future Promise and Work Ahead

The scorecard is an exciting, very promising work-in-progress. Still, it needs further development to realize its full potential.

Interested partners are working on an agreement that will allow work to continue, aimed at publishing a first edition of the scorecard. This first edition will focus on a select set of indicators—those that are most robust and sustainable.

These next phases of development will enable us to better understand and monitor the rich natural heritage of Washington State.

For more information, please contact the Recreation and Conservation Office, 360-902-3000.



The Biodiversity Scorecard: Taking Stock of Washington's Natural Riches



A promising new tool to assess the condition of Washington's biodiversity.







Why A Scorecard?

It's been said that what gets measured, matters. Whether it's the stock exchange, baseball statistics or a grocery bill, people follow numbers. We keep a close accounting of important things, like our checkbooks. And so it is with our natural world. It's important to understand the state of biodiversity because its well-being is necessary for ours. But just how do you measure Washington's natural wealth?

The Washington Biodiversity Council and its partners took up that question. In its 2007 Washington Biodiversity Conservation Strategy, the Council identified a need for a scorecard that would track trends in the health of the state's natural heritage and assess the effectiveness of conservation efforts. Just as your checkbook has a balance sheet of deposits and expenses, the Biodiversity Scorecard tracks nature's portfolio. This ambitious framework provides a current assessment and sets a benchmark for future study.

Biodiversity: Nature's Wealth, Our Benefit

The natural world that human life depends on is so vast that it defies easy description. Scientists use the word biodiversity as shorthand for biological diversity, a term that encompasses every living thing on this planet. Consider biodiversity as science-speak for our planet's living wealth, that array of species and ecosystems that provide us with clean air to breath and water to drink, much of our medicine, healthy soils to grow food, fish to catch, and wild places and creatures to contemplate.

Washington's biodiversity is not only central to our region's ecological health, but it's also an engine of the economy and a dominant feature in our quality of life. Unfortunately, our biodiversity is declining, as it is around the world.











What Are We Measuring?

Drawing on the Biodiversity Council's Conservation Strategy, and a broad range of local, national, and international monitoring efforts and studies, University of Washington researchers compiled 136 possible indicators of biological health for the assessment—an ungainly number.

The researchers then narrowed this list to 30 interrelated and quantifiable indicators in four broad categories:

- Elements of Biodiversity—the pieces that make up life.
- Ecological Processes—the actions that support life.
- Human Factors—those forces that affect biodiversity both positively and negatively.
- Ecosystem Services—the innumerable benefits that people derive from biodiversity.

The scorecard framework assigns a numerical value to indicators in these four categories. These values can be selected and tallied in various ways to yield insights about particular categories, or combined for a big picture assessment of biodiversity's current status. Aggregating these numbers can allow comparisons with other ecosystems, or over time to provide an important measure of changing conditions.

The Scorecard Is A Powerful Tool.

The Biodiversity Scorecard lays the groundwork for a comprehensive, science-based assessment of Washington's biodiversity. The scorecard:

- Relies on state-of-the-science techniques employed around the world.
- Uses indicators that are selective enough to provide precision, but broad enough to draw key ecosystem relationships.
- Incorporates not only natural features and systems, as do other efforts of this type, but also the effects of human actions on ecosystems and the services that ecosystems provide.
- Offers a snapshot in time and serves as a baseline to chart trends.
- Provides an overall index of the state's natural wealth.



ELEMENTS OF BIODIVERSITY

Plant and animal species
Iconic and at-risk species
Plant communities / ecosystems
Soil organic matter

ECOLOGICAL PROCESSES

Plant productivity
Flowering and migration dates
Fire, floods, insect outbreaks

HUMAN FACTORS

Land use/cover change Pollution levels Conservation land base Citizen science

ECOSYSTEM SERVICES

Water quality and quantity Fish and game provision Timber & crop yields Parks and wildlife viewing area

Biodiversity Conservation: It's All Connected

This chart shows the scorecard's four indicator categories with examples drawn from the set of 30 indicators used to help assess the status of Washington's biodiversity. The key point is that these categories are interrelated in myriad ways. Here are a couple possible illustrations:

Bumble bees or other native insects (elements of biodiversity) pollinate (an ecological process) balsamroots and apple trees (more elements of biodiversity) that produce flowers and fruit (another ecological process) ultimately for human consumption and aesthetic enjoyment (ecosystem services). But people (human factors) can affect bees both positively, by stewarding habitat, and negatively, by using pesticides inappropriately.

Or imagine morel mushrooms in a Douglas fir and ponderosa pine forest following a controlled burn. There's a human factor (fire management) that affects elements of biodiversity (morels) that promotes an ecological process (nutrient cycling) that yields an ecosystem service (tasty morels as a food source).

Central to the scorecard is the emphasis on connections among each of these components and moreover, that we are measuring them in some way, whether it's bee populations, pollination rates, fruit production, pesticide use, or conservation efforts. The scorecard brings together existing data in new ways to yield important insights about Washington's natural heritage.







